required for tumor growth and, thus, the molecular components of the Raf/MEK/ERK signaling pathway are potential therapeutic targets for treating cancer, in particular for hepatocellular carcinoma (HCC) [20].

The anti-cancer drug Sorafenib inhibits the upstream receptor tyrosine kinases that are important in angiogenesis, including VEGFR-2, VEGFR-3, PDGFRβ, and kit and Raf serine/threonine kinase isoforms (e.g. Raf-1 and B-Raf). Thus, Sorafenib can induce tumor cell death and inhibit angiogenesis. Sorafenib has also been shown to induce apoptosis in several tumor cell lines through mechanisms that are not well established [20, 21]. Sorafenib is the first FDA-approved systemic therapy for patients with advanced HCC not amenable to treatment by surgical resection or liver transplantation.

This altogether shows the interest of identifying new therapeutics acting on tyrosine kinases, for the treatment of fibrotic diseases or cancers.

SUMMARY OF INVENTION

The present ~~invention~~ disclosure provides novel uses of 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of pharmaceutical compositions for treating fibrotic diseases and cancers. 1-[4-Methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one has anti-fibrotic and anti-cancer properties through inhibition of receptor and non-receptor tyrosine kinases and/or inhibition of their intracellular signaling pathways in fibroblasts.

In one aspect, there is disclosed a use of the compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for the treatment or prevention of fibrotic diseases, wherein the fibrotic disease is not liver fibrosis, or for the treatment or prevention of a tyrosine kinase related cancer.

In another aspect, there is provided a use of the compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for the curative treatment of a liver cancer.

In yet another aspect, there is provided a use of the compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for the inhibition of proliferation and/or activation of cells responsible for the production of collagen fibers and/or responsible for the production of the extracellular matrix.

In still another aspect, there is provided a use of the compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for promoting apoptosis of cells responsible for the production of collagen fibers and/or responsible for the production of the extracellular matrix.

DESCRIPTION OF THE FIGURES AND TABLES

Abbreviations used in the figures, in the tables, and in the text:

- Col1a1 = collagen, type I, alpha 1
- Col4a1 = collagen, type 4, alpha 1
- Cpm = counts per minute

CLAIMS

1. Use of a ~~C~~compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for ~~use in a method for~~ the treatment or prevention of fibrotic diseases, wherein the fibrotic disease is not liver fibrosis, or for the treatment or prevention of a tyrosine kinase related cancer.

2. The ~~compound for~~ use according to claim 1, wherein the fibrotic disease is a a lung, heart, muscle, skin, soft tissue, bone marrow, intestinal, and joint fibrosis.

3. The ~~compound for~~ use according to claim 1, wherein the fibrotic disease is pulmonary fibrosis, idiopathic pulmonary fibrosis, cystic fibrosis, endomyocardial fibrosis, mediastinal fibrosis, myelofibrosis, retroperitoneal fibrosis, progressive massive fibrosis, nephrogenic systemic fibrosis, inflammatory bowel disease (IBD)-associated fibrosis, colitis-associated fibrosis, Crohn's Disease, keloid, old myocardial infarction, scleroderma/systemic sclerosis, arthrofibrosis or an adhesive capsulitis.

4. The ~~compound for~~ use according to claim 1, wherein the tyrosine kinase related-cancer is a PDGFR,- VEGFR- or KIT-related cancer.

5. The ~~compound for~~ use according to claim 1 or 4, wherein the cancer is a renal cell carcinoma, gastrointestinal stromal tumor (GIST), gastric cancer, menigioma associated with neurofibromatosis, pancreatic neuroendocrine tumors, pancreatic exocrine tumors, leukemia, myeloproliferative/myelodisplastic diseases, mastocytosis, dermatofibrosarcoma, solid tumors including breast, lung, thyroid or colorectal cancer or a prostate cancer.

6. Use of a c~~C~~ompound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for ~~use in a method for~~ the curative treatment of a liver cancer.

7. The ~~compound for~~ use according to claim 6, wherein the liver cancer is a hepatocellular carcinoma.

8. Use of a ~~C~~compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for ~~use in~~ the inhibition of proliferation and/or activation of cells responsible for the production of collagen fibers and/or responsible for the production of the extracellular matrix.

9. Use of a ~~C~~compound 1-[4-methylthiophenyl]-3-[3,5-dimethyl-4-carboxydimethylmethyloxyphenyl]prop-2-en-1-one in the preparation of a medicament for ~~use in~~ promoting apoptosis of cells responsible for the production of collagen fibers and/or responsible for the production of the extracellular matrix.